ABSTRACT

5   A new architecture and operational techniques for supporting high quality live and on-demand streaming multimedia on a data network. By using *Helper* machines inside the network as data forwarding, caching, and buffering agents, and by forming meshes among *Helper* machines, advantages of homogeneous, synchronous

10   multicast transmission and of heterogeneous, asynchronous reception are achieved. The architecture provides essentially transparently support to the receivers for near-zero start-up latency, improved playback quality, improved CR-like operations. These are achieved while reducing network and server load compared to today's

15   multimedia networking techniques.